

## ORIGINAL ARTICLE - PUBLIC HEALTH

# A CROSS SECTIONAL STUDY TO ESTIMATE THE KNOWLEDGE, ATTITUDE AND PRACTICES OF ORGAN DONATION AMONG THE PEOPLE ATTENDING MASTER HEALTH CHECKUP (MHC) IN A TERTIARY CARE CENTRE IN CHENNAI

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## Abstract

**AIM:** To determine the knowledge, attitude and practices of Organ donation among the general population attending the Master Health Checkup department of Stanley Medical College.

**METHODS:** A cross sectional study using convenient sampling method with a sample size of 369 was generated among patients attending Master Health Checkup in Government Stanley hospital. The data collection was done with the help of questionnaire about Organ donation. The data was analysed using SPSS 16 software.

**RESULTS:** 78.1% are aware of Organ donation, 41.2% are willing to donate their organs, and around 70% of the people prefer to donate their organs to anyone in need irrespective of their relation to them. 75.1% of the people supported the promotion of organ donation and believed that people's awareness and positive attitude played a vital role. As per the study 19.5% of the people are aware of the organ donor card.12% of the study population have already donated their organs.

**CONCLUSION:** Age, sex, locality and socio-economic status are the factors influencing the attitude, knowledge and practices of organ donation. Though the awareness regarding organ donation has increased, the willingness to donate is still lower than required due to the influencing factors like fear, selfishness and religious beliefs.

**KEY WORDS:** Organ donation, Master health check up

## INTRODUCTION

Organ donation is the process of removing the tissues or organs from a live or a recently dead person to be used in another who is in need of organ transplantation. Organ transplantation is a more preferred treatment modality in patients with End-stage organ disease(1). The need for organ donation is higher than its availability. Prerequisites for the success of transplantation programme include awareness and positive attitudes(3). However, increasing utilization will lead to tissue shortages and tissue procurement organizations continue to explore ways to expand the cadaveric donor pool. Thus, the belief and attitudes of the general population towards organ donation can influence the quality of their life. It's been more than five decades, since the practice of organ transplantation emerged on the global stage. After it emerged it has not only perished great success and fame, but has also saved countless numbers of the terminally ill.

However, what has continued to hamper its smooth progress is its first necessity, an organ donation. The lack of an organ donation continues to seal the faith of critically ill patients across the world. The predicament involves the dearth of both living and cadaveric grafts. Shortage exists in the donation of both life-saving and Non-life-saving grafts. With the passage of time the number of patients in need of organ transplants has raised in even the most developed nations.

Organ transplantation saves lives of thousands

in worldwide. Kidney transplants are carried in 91 countries as per WHO. Approximately, 66,000 Kidney donations, 21,000 Liver donations and 6,000 Heart donations were transplanted globally in 2005 (2).

Studies have been done on Medical and nursing students towards their perceptions and attitudes about organ donation and to enhance motivation towards the same.(1). However, there is a lack of studies done on the terminally ill patients and general public with regard to their perception and attitudes about organ donation.

## JUSTIFICATION

- The requirement for organs exceed number of donors across world. There are many capable recipients on organ donation waiting list than organ donors.
- Despite improvements in graft and patient survival rates, the number of available cadaveric organs continues to fall far behind the needs and the waiting lists are still increasing.(9-11)..
- Attempts to increase donation rates have included public awareness and professional education programs, as well as laws that require physicians to request that families donate of dying or deceased relatives.
- Some studies have suggested that Knowledge,



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Attitudes, and other determinants determining this issue are influenced by the following factors including gender, educational level, occupation, socio-demographic status, income level, culture and religion.(10-12)..

- The difference in prevalence, knowledge, attitudes and factors are influencing organ donation also depend on many potential barriers, which may reduce the organ shortage, though it is not clear which factors are most significantly related to decisions about donation (24).
- The present study carried out to look an insight into the attitude, awareness and practice towards organ donation and to evaluate the factors which are associated with the same among the people attending Master Health Check-up in a tertiary care center.

## OBJECTIVES

### Primary Objective :

To assess the attitude, knowledge and practice about organ donation among the general population.

## METHODOLOGY

### Study Design :

A Cross sectional study.

### Study Population :

People who all are attending the Master Health Checkup in Govt. Stanley Hospital in Chennai.

### Inclusion Criteria :

Those who have consented for the study.

All patients more than 18 years and less than 60 years will be included in the study.

### Exclusion Criteria :

People who are not willing to participate.

### Study Period :

July 2021 to September 2021.(3 months)

### Study Area :

Master Health Checkup department, Govt.Stanley Hospital in Chennai.

### Sample Size :

From previous similar study done by Anita et al2 the knowledge levels regarding Organ donation in a selected district of Bhopal was 72%

Sample size was calculated based on this value by using the formula  $Z^2pq/d^2$  which is 369 individuals.

### Instruments Used :

Face to face interview with the people using a pretested standard questionnaire.

### Ethical Considerations :

Ethical committee permission obtained.

### Method of Data Collection :

1. When gained the consent from the

participant, the questionnaire will be issued and after he/she finishes answering it, any queries regarding the same will be answered.

### Data Analysis :

After collecting, the Data was being compiled and entered in Microsoft Excel Sheet. Analysis was done using Statistical software SPSS version 16.All Continuous variables were expressed as Mean and Standard Deviation .All Categorical variables were expressed as Percentages and Proportions. The test will be considered significant if  $P < 0.05$ , at 95% Confidence Interval. Chi square test was considered as the test of significance.

## RESULTS

A brief information regarding the awareness of the people in association with age , sex , locality and socio-economic status was analysed along with other information regarding the source, their attitude towards donating their own organs and the basic knowledge about the process of organ donation.

Table 1: Description of the Population Under Study

Age	≤35 Years	170(46.07%)
	>35 Years	199(53.92%)
Sex	Male	199(53.92%)
	FEMALE	170(46.07%)
Socio-Economic Status	Upper	11(3%)
	Upper Middle	137(37%)
	Lower Middle	103(28.1%)
	Upper Lower	114(30.8%)
	Lower	4(1.1%)
Locality	Rural	104(28.1%)
	Urban	265(71.6%)

Table 2 : Awareness of the people under study about organ donation

Are you aware that Organs can be Donated?	Frequency	Percentage
Yes	290	78.6%
No	79	21.4%
Total	369	100.0%

Out of the 369 people under study, 78.6% were aware that organs can be donated to save the lives of other people but 21.4% individuals were not aware of the term “Organ donation”.

Out of the 290 people aware, people belonging to the age groups ranging from 26-45 years were found to be increasingly aware of the organ donation process.

Out of the 199 males under the study, 82.4 % were aware

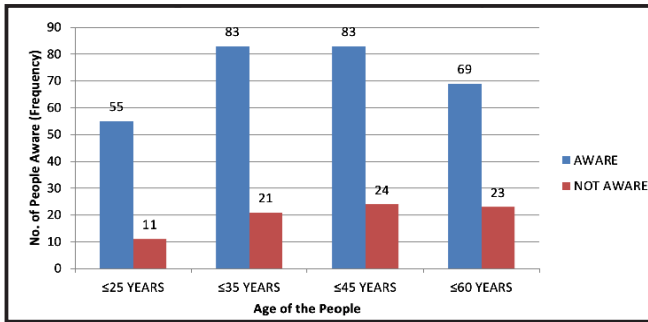


Figure 1: Awareness of the People in Association with their Age

of the organ donation process and 17.6% were not even aware of the organ donation process. Within the 170 females under study, 74.1% were aware of the organ donation process and 25.9% were unaware of the organ donation process.

Table 3: Association of Sex and Awareness of the People Under Study

Sex	Awareness : Aware (Frequency)	Not Aware (Frequency)	Total
Male	164 (91.1%)	26 (8.9%)	180 (100%)
Female	126 (66.7%)	63 (32.3%)	189 (100%)

CHI SQUARE VALUE – 3.1880

p-value - 0.03709 ; It is less than 0.05.

Hence, the above data is statistically significant.

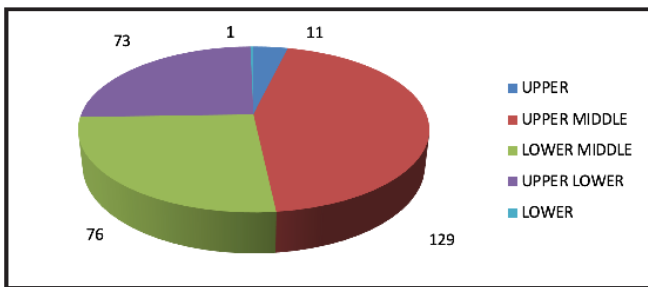


Figure 2: Awareness of the People in Association with their Socio-Economic Status

The socio-economic details of the population under study are as follows:

Among the 78.6% people who are aware of the organ donation process, 3.8% belonged to the upper class, 44.5% belonged to upper middle, 26.2% belonged to lower middle, 25.2% belonged to upper lower and 0.3% belonged to lower class. It should be noted that the percentage of awareness is decreasing with respect to the socio-economic status, as we approach towards the lower class, in the order mentioned above. That is, there are no unaware people in the upper

class whereas the percentage of people unaware in the upper middle is 5.8%, lower middle is 26.2%, upper lower is 36%, and in the lower class is 75%.

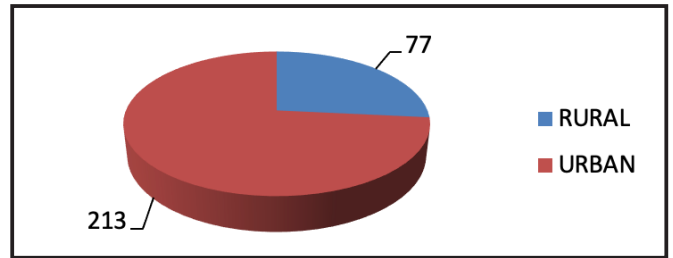


Figure 3: Awareness of the People in Association with their Locality

26.5% of the rural population under study and 73.4% of the population from Urban, were aware of the organ donation process, under the study.

Table 4: Sources through which Awareness about Organ Donation was Obtained

Source	Frequency
Doctor	54 (14.6%)
Internet	16 (4.3%)
Television	150 (40.6%)
Radio	6 (1.6%)
Newspaper/Magazine	73 (19.7%)
Friends/Colleague	72 (19.5%)

Majority of the people who were aware of the organ donation process have picked their source as television, whereas some people picked more than one source of information.

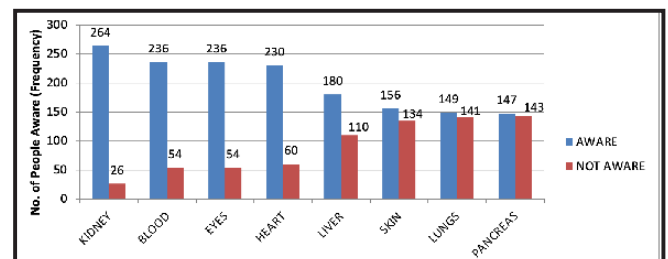


Figure 4: Awareness about the Various Organs that can be Donated

143 people (38.8%) from the study have known that all the mentioned above organs can be donated. About 71.5% were aware of kidney donation while only 39.8% were aware of pancreas donation. However, 3.3% of the population believed that only eyes can be donated.

About 74% considered that organ donation is done to save someone's life whereas 3.3% assume that organ donation is done for acquiring money.

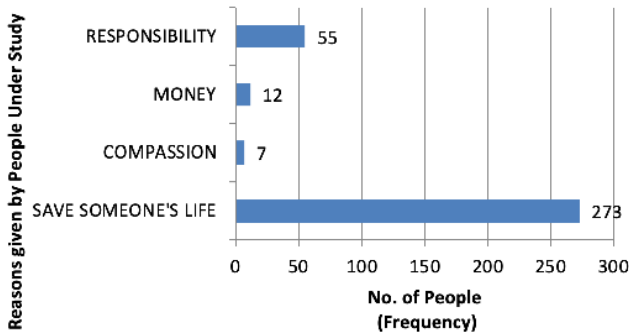


Figure 5: Reasons given by People Regarding the Practice of Organ Donation

Though, 46.6% of the people believe that donated organs will not be misused, around 31.7% doubt that organs donated are being misused or abused.

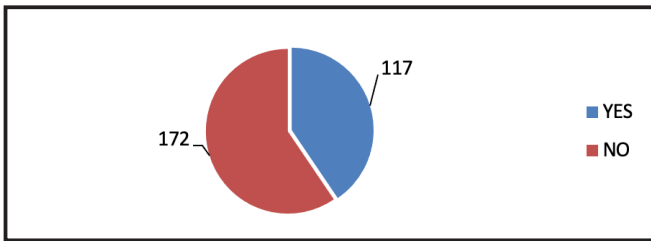


Figure 6: Belief of People Regarding Misuse of Organs

Table 5: Acquaintance of People with those who have Donated Organs

People who have Donated Organs	Frequency
Family Member	43 (11.6%)
Friend	43 (11.6%)
Colleague	9 (2.4%)
No one	194 (52.5%)

It is remarkable to know that 25.8% have acquainted with someone who has donated organs

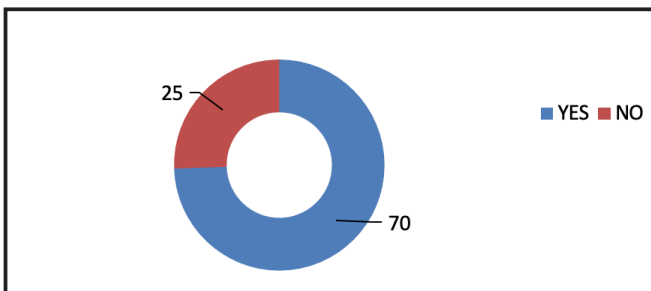


Figure 7: Decision to Donate Organ after being Influenced by those who have donated

Out of the 25.8% who are acquainted to people who have donated organs, only around 19% of the people are influenced to donate their organs as well.

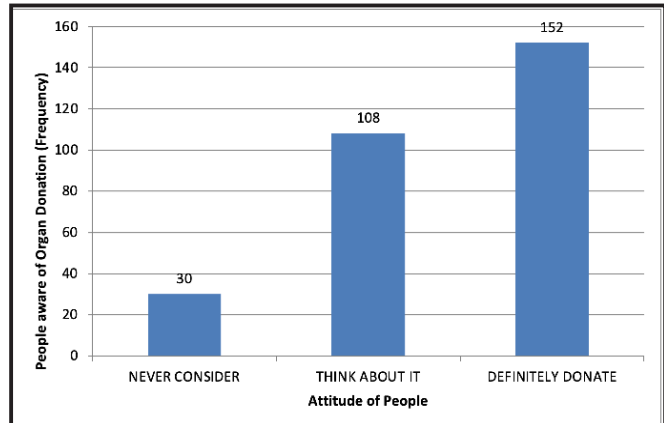


Figure 8: Attitude of People towards their own Organ being donated

Out of 78.6% who were aware of organ donation, only 41.2% were definitely willing to donate organs, whereas 29.3% had second thoughts and 8.1% will never consider donating.

Table 6: Preferences of the People in Choosing their Recipients

Recipients	Frequency
<b>Relations</b>	
Family	27 (7.3%)
Stranger	2 (0.5%)
Friends	1 (2.7%)
Colleague	1 (2.7%)
Can be anyone	258 (69.9%)
<b>Smoking Habits</b>	
Non-Smokers	82 (22.2%)
Both Smokers and Non-Smokers	207 (56.0%)
<b>Drinking Habits</b>	
Doesnot Consume Alcohol	92 (56.0%)
Both Consuming and not Consuming Alcohol	197 (53.3%)
<b>Age</b>	
Young Person (<30 Years)	35 (9.4%)
Middle Age (30-50 Years)	7 (1.8%)
Elderly Person (>50 Years)	4 (1.0%)
Can be anyone	243 (65.8%)
<b>Mental Status</b>	
Mentally Retarded Person	10 (2.7%)
Mentally Sound Person	26 (7.0%)
Can be anyone	253 (68.5%)
<b>Physical Health</b>	
Physically Challenged	11 (2.9%)
Not Physically Disabled	17 (4.6%)
Can be anyone	261 (70.7%)
<b>Religion</b>	
Person Belonging to same Religion	5 (1.3%)
Person Belonging to Different Religion	6 (1.6%)
Can be anyone	278 (75.3%)

Around 70% of individuals prefer to donate their organs to anyone in need irrespective of their relation to them. About 56.1% prefer to donate organs to others irrespective of their smoking habits, whereas 22.3% prefers to give only to the non-smokers. 25% of the people under study prefer to donate their organs to those who don't consume alcohol. 65.9% choose to donate their organs to anyone irrespective of their age, while 9.5% would prefer to donate their organs to

young age group. It is to be noted that though 7% wanted to donate their organs only to mentally sound persons, about 2.7% preferred to give their organs to mentally retarded people exclusively. 70.8% favoured to donate their organs to anyone irrespective of their physical health. 76.3% desired to give the organs to anyone regardless of their religion.

**ASSESSMENT OF KNOWLEDGE OF PEOPLE REGARDING VARIOUS ASPECTS OF ORGAN DONATION**

Only 35.2% rightly believed that consent for a living donation should be given by the donor himself, while 43.4% thought of other relatives.

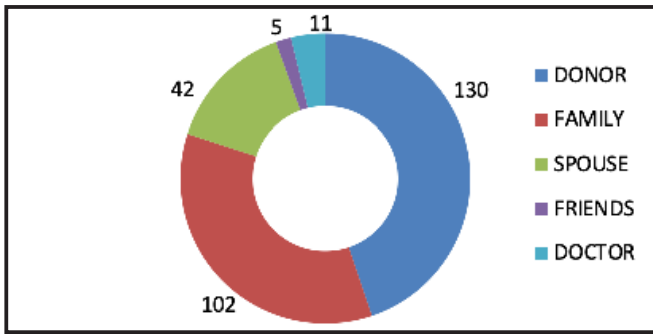


Figure 9: Knowledge Regarding Consent for Organ Donation

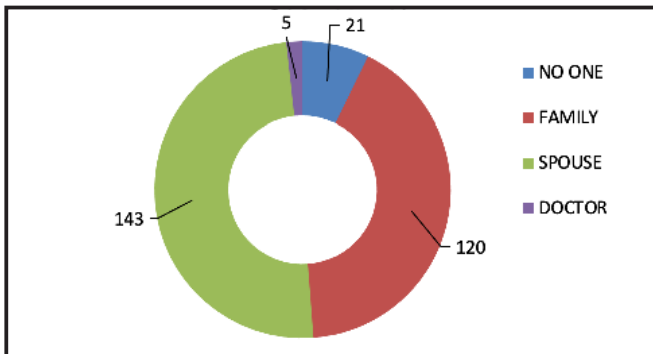


Figure 10: Knowledge regarding consent for Organ donation after Brain Death

Also, 38.8% answered correctly that if a married person acquires brain death, then the first relative preferred to give consent is the spouse.

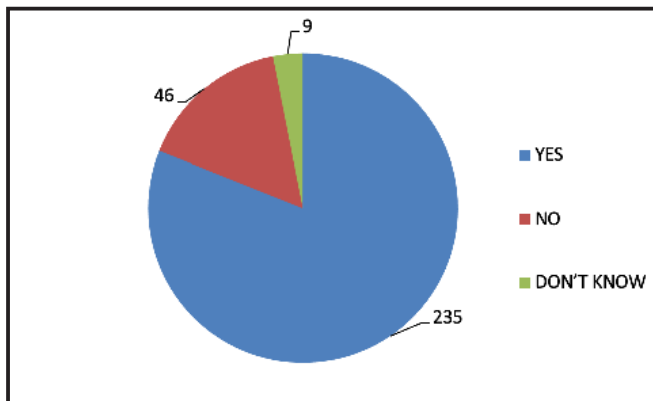


Figure 11: No. of Lives a Single Brain Dead Donor can save

63.7% rightly assumed that a single brain dead donor can save more than one life, whereas 2.4% were not aware of this.

Table 8: Opinion of the People Regarding Selling of Organs

Opinion about Selling	Frequency
Legal	21 (5.6%)
Illegal	232 (62.8%)
Don't Know	37 (10.0%)

About 10% did not know if selling of organs was legal or illegal, but 62.9% correctly believed that selling of organs was illegal.

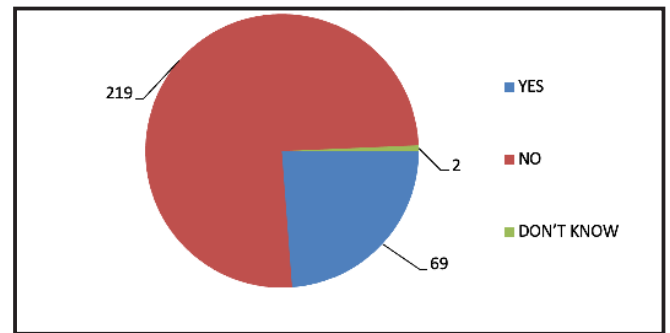


Figure 12: Knowledge Regarding Expenses Related to Organ Donation

18.7% assume that donor's family should bear the expenses related to organ donation.

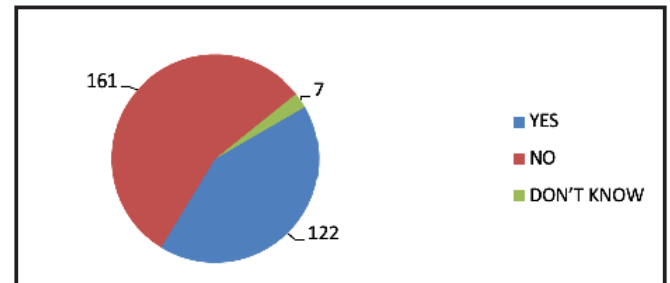


Figure 13: Knowledge Regarding Registering as an Organ Donor

43.6% have correctly known that the organ donation could be done even if the person has not registered before.

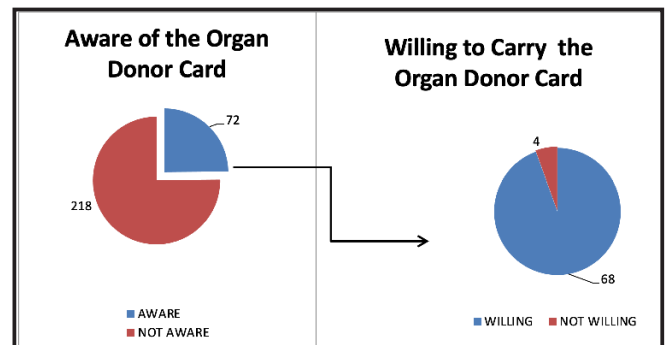


Figure 14: Knowledge Regarding Organ Donor Card



As depicted in the figure above, 19.5% of the individuals under study are aware of the organ donor card, out of which 18.4% are willing to carry one.

Table 9: Awareness about Organ Donor Card in Association with Sex of the People Under Study

Sex	Aware of the card (Frequency)	Not aware of the card (Frequency)
Male	49 (13.2%)	114 (30.8%)
Female	23 (6.2%)	102 (27.6%)

Yates corrected chi square - 4.528  
p-value- 0.03335; It is less than 0.05.

Hence, the given data is statistically significant.

**ASSESSMENT OF PRACTICES OF ORGAN DONATION AMONG THE PEOPLE UNDER STUDY**

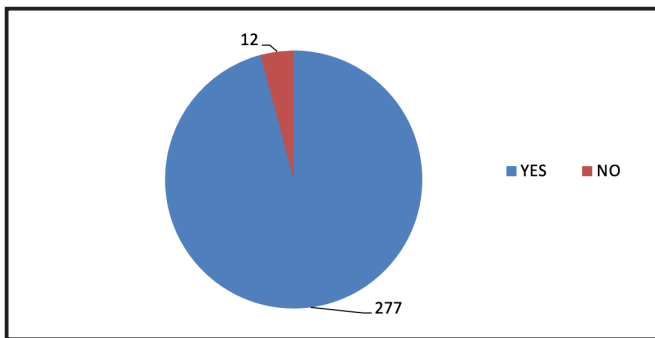


Figure 15: Opinion Regarding Promotion of Organ Donation

About 75.1% of the people supported the promotion of organ donation and believe that people’s awareness and positive attitude play a vital role.

Table 10: Validations given by People for the Refusal to Support the Promotion of Organ Donation

Reasons	Frequency
Fear That Organs Will Be Wasted	6 (1.6%)
Religious Beliefs	2 (0.5%)
Family Refusal	4 (1.1%)

Table 11: Practice of Seeking Permission From the Elders before Donating Organs

Practice	Frequency
Will Seek Permission	207 (56.0%)
Will not Seek Permission	83 (22.4%)

39.5% of the people had an optimistic attitude to donate their organs by either convincing or registering without the knowledge of the elders, whereas 16% were less determined and easily influenced to quit.

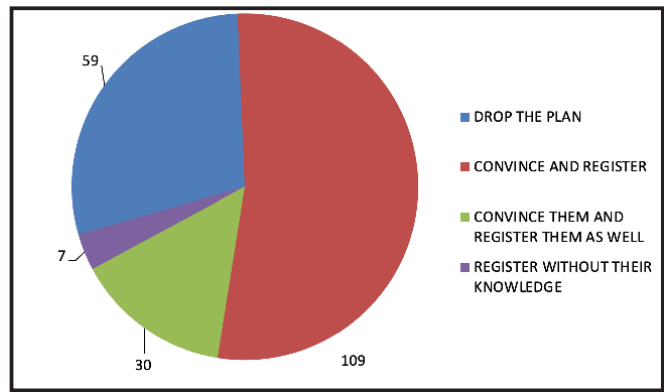


Figure 16 : Plan after refusal by elders

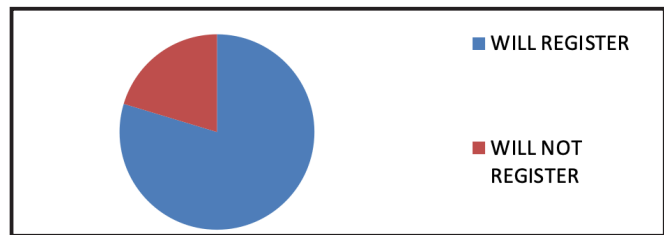


Figure: 17 A chance to Register Themselves as an Organ Donor

62.6% of the people desire to register themselves as organ donor when given a chance whereas, 16% refused to do so by citing one of the following reasons.

Table 12: Reasons for Refusal to Register as Organ Donor

Reasons	Frequency
Fear	36(9.8%)
Selfishness	14(3.8%)
Religious Belief	10(2.7%)

Table 13: Attitude of the people towards registering as Organ Donor in association with sex

	Will Register (Frequency)	Will not Register (Frequency)
Sex: Male	138 (37.3%)	26 (7.0%)
Female	93 (25.2%)	33 (8.9%)

YATES CORRECTED CHI SQUARE – 4.0820;  
p-value - 0.04335 which is less than 0.05.

Therefore, the data is statistically significant.

**DISCUSSION**

Out of the 369 people under study, 82.4% males and 74.1% females are aware of the term Organ donation. According to our study, out of 78.1%, who are aware, only 62.6% desire to register themselves as a Organ donor. Owing to fear, selfishness and religious beliefs, 16% of the people are unwilling to donate. Among the people who desired to donate, 138 are males and 93 are females. In a study done by

Naveen et al, 72% were aware about organ donation, where 68% desire to register as an organ donor.

According to our study, out of 78.1%, who are aware, only 62.6% desire to register themselves as a Organ donor. Owing to fear, selfishness and religious beliefs, 16% of the people are unwilling to donate. Among the people who desired to donate, 138 are males and 93 are females. In a study done by Naveen et al, 72% were aware about organ donation, where 68% desire to register as an organ donor.

According to our study, among 19.5% of the people who are aware of the organ donor card, 18.4% are willing to carry one. In previous study done by evans et al, about 24% were aware about organ donor card of which 20% are willing to carry one.

Also, the middle age group (26-45 years) of age are more aware of the Organ donation process. It is to be noted that the percentage of awareness is decreasing with respect to the socio-economic status, as we approach towards the lower class.

In our study, there are no unaware people in the upper class whereas the percentage of people unaware in the upper middle is 5.8%, lower middle is 26.2%, upper lower is 36%, and in the lower class is 75%. About 71.5% are aware of kidney donation.

## CONCLUSIONS

1. Age, sex, locality and socio-economic status are the factors influencing the attitude, knowledge and practices of organ donation.
2. Though the awareness regarding organ donation has increased, the willingness to donate is still lower than required due to the influencing factors like fear, selfishness and religious beliefs.
3. The donor pool can be increased by awareness programmes through mass campaign and promoting unrelated organ donation.

**Conflict of interest :** Dr. P. Seenivasan who is an author of this article is also a member of the editorial board and he was not involved with the processing and reviewing of this particular article.

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